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Lodewijk Van Noten

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EXAMINER

MOONEY, MICHAEL P

ART UNIT

PAPER NUMBER

2883

NOTIFICATION DATE

DELIVERY MODE

09/02/2010

ELECTRONIC

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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<b>Office Action Summary</b>	<b>Application No.</b> 10/578,239	<b>Applicant(s)</b> VAN NOTEN ET AL.	
	<b>Examiner</b> MICHAEL P. MOONEY	<b>Art Unit</b> 2883	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 19 April 2010.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-39 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-14, 17-35, 38 and 39 is/are rejected.
- 7) ☒ Claim(s) 15, 16, 36 and 37 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 04 May 2006 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)         | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)         | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____   | 6) <input type="checkbox"/> Other: _____                          |

## **DETAILED ACTION**

### ***Drawings***

The drawings are objected to as failing to comply with 37 CFR 1.84(p)(4) because reference character “84” has been used to designate both the slot and cradle. It is believed that, in Fig. 1, the “84” between the far left “84” and the “1” is supposed to be “53”. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either “Replacement Sheet” or “New Sheet” pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

**Claims 1-14, 17-23, 26-29, 32-35 are rejected under 35 U.S.C. 102b as being anticipated by Vincent et al. (5999682).**

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Regarding claim 1, Vincent et al. (herein may be also referred to as “Vincent”) teaches a device (e.g., figs. 9-12) for installing an optical fiber F F’ (e.g., fig. 11) in a connector 1 and/or 2 (e.g., figs. 1-8; col. 1 lines 50-59), comprising: an optical fiber cleaving mechanism (e.g., col. 7 lines 25-61; col. 11 lines 1-20); means for holding 60 an optical fiber connector 1 and/or 2 (e.g., fig. 9); and a fiber insertion mechanism 14 14’ 17 20, 20’ 26 26’ 123 123’ (e.g., col. 11 lines 35-62); arranged such that an optical fiber F F’ (e.g., fig. 11 ) may be cleaved by the cleaving mechanism 30 30’ to produce an end of the fiber (e.g., col. 5 lines 50-60), and the end of the fiber may be inserted by means of the insertion mechanism into a connector 1 and/or 2 held by the connector holding means 60 (e.g., col. 11 lines 35-67).

Thus claim 1 is met.

Regarding claim 2, Vincent et al. teaches a device according to claim 1, wherein the end of the fiber is inserted into the connector in a predetermined orientation with respect to the connector (e.g., col. 11 lines 35-67). Thus claim 2 is met.

Regarding claim 3, Vincent et al. teaches a device according to claim 1, wherein the cleaving mechanism 30 30’ is arranged to cleave the optical fiber such that an end face of the end of the fiber so produced is oriented at a non-perpendicular angle with respect to the longitudinal axis of the fiber (e.g., col. 11 lines 1-35). Thus claim 3 is met.

Regarding claim 4, Vincent et al. teaches a device according to claim 3, wherein the insertion of the fiber into the connector by the insertion mechanism is such that the orientation of the non- perpendicular end face of the fiber with respect to the connector is predetermined (e.g., col. 11 lines 1-62). Thus claim 4 is met.

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Regarding claim 5, Vincent et al. teaches a device according to claim 1, comprising a main body 12 within which the cleaving mechanism is located (e.g., figs. 9-12). Thus claim 5 is met.

Regarding claim 6, Vincent et al. teaches a device according to claim 5, wherein the cleaving mechanism 30 30' (e.g., figs. 10-11) may be accessed by an optical fiber F F' to be cleaved, only by insertion of the fiber through an aperture (e.g., see the aperture/gap in main body 12 through which fiber F passes and where 123 is located in fig. 11) in the main body 12 (e.g., figs. 9-12). Thus claim 6 is met

Regarding claim 7, Vincent et al. teaches a device according to claim 1, wherein the insertion mechanism 14 14' 17 20, 20' 26 26' 123 123' manipulates the fiber in order to insert the end of the fiber in the connector (e.g., col. 11 lines 1-62). Thus claim 7 is met.

Regarding claim 8, Vincent et al. teaches a device according to claim 7, wherein the insertion mechanism 14 14' 17 20, 20' 26 26' 123 123' moves the cleaved end of the fiber F F' with respect to the connector holder 60 in a direction along a longitudinal axis of the fiber F F', which axis extends from the cleaved end of the fiber, in order to insert the fiber in a connector 1 and/or 2 (e.g., col. 11 lines 1-67). Thus claim 8 is met.

Regarding claim 9, Vincent et al. teaches a device according to claim 8, wherein the axial movement of the fiber by the insertion mechanism 14 14' 17 20, 20' 26 26' 123 123' comprises movement of the insertion mechanism to a locking position at which the fiber is fully inserted into the connector (e.g., col. 10 lines 50 to col. 12 line 8; figs. 9-12). Thus claim 9 is met.

Regarding claim 10, Vincent et al. teaches a device according to claim 9, wherein, when the insertion mechanism 14 14' 17 20, 20' 26 26' 123 123' is in its locking position, the insertion

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mechanism resists removal of the fiber out of the connector, and resilient means of the insertion mechanism applies an insertion force to the fiber (e.g., col. 10 line 50 to col. 12 line 8; figs. 9-12). Thus claim 10 is met.

Regarding claims 11, 32, Vincent et al. teaches a device according to claim 1 (the first portion of claim 32 is addressed in the rejection of claim 1 above with the remainder of claim 32 addressed in this paragraph [i.e., below]), wherein the insertion mechanism comprises a curved support (e.g., see the curved pillar(s)/column(s) of carrier carriage 14 that fiber F is retained by as seen in, for example, fig. 11) on which the fiber F is retained when the end of the fiber F is inserted into the connector 1 and/or 2 (e.g., col. 11 lines 40-60; figs. 9-12). Thus claims 11, 32 are met.

Regarding claims 12, 33, Vincent et al. teaches a device according to claim 11 and/or 32, wherein the curved support comprises an at least partial disc [e.g., the portion of the said pillar(s)/column(s) the fiber F contacts is the equivalent of a partial disk cross section], on the circumference of which the fiber is retained (e.g., col. 11 lines 35-67; fig. 11). Thus claims 12, 33 are met.

Regarding claims 13, 34, Vincent et al. teaches a device according to claim 1 and/or 32, wherein the insertion mechanism clamps the fiber during the cleavage of the fiber (e.g., col. 10 lines 15-20). Thus claims 13, 34 are met.

Regarding claims 14, 35, Vincent et al. teaches a device according to claim 13 and/or 34, wherein the clamping of the fiber by the insertion mechanism is maintained subsequent to the cleavage of the fiber, until the fiber has been inserted into the connector (e.g., col. 10 lines 15-20; col. 10 line 50 to col. 12 line 8). Thus claims 14, 35 are met.

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Regarding claim 17, Vincent et al. teaches a device according to claim 7, wherein the insertion mechanism 14 14' 17 20, 20' 26 26' 123 123' rotates the end of the fiber between a cleavage orientation and an insertion orientation with respect to the connector holder 60, in order to insert the fiber into the connector 1 and/or 2 (e.g., col. 7 line 65 to col. 8 line 32; col. 10 lines 60-65; col. 11 lines 37-42). Thus claim 17 is met.

Regarding claim 18, Vincent et al. teaches a device according to claim 17, wherein the rotation of the fiber by the insertion mechanism is through substantially 90 degrees (e.g., col. 11 lines 35-67). It is noted that the pivoting of the cradle 17 and the carrier 123 at least amount to a rotation of substantially 90 degrees. Thus claim 18 is met.

Regarding claim 19, Vincent et al. teaches a device according to claim 1, wherein the connector holding means comprises a cradle 60 for a connector 1 and/or 2, which is movable with respect to the remainder of the device (e.g., col. 12 lines 18-19). Thus claim 19 is met.

Regarding claim 20, Vincent et al. teaches a device according to claim 19, further comprising a main body within which the cleaving mechanism is located, wherein the cradle 60 is movable across the main body 12 of the device between two opposite insertion positions, and wherein optical fibers may be inserted into respective opposite ends of a connector 1 and/or 2 held by the cradle 60 to form an optical fiber splice in the connector (e.g., figs. 9-12; col. 7 line 65 to col. 8 line 32). Thus claim 20 is met.

Regarding claim 21, Vincent et al. teaches a device according to claim 20, wherein the insertion mechanism rotates the end of the fiber between a cleavage orientation and an insertion orientation with respect to the connector holder (e.g., col. 5 lines 22-40; col. 11 lines 35-41), in order to insert the fiber into the connector, and wherein there are two opposite insertion

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orientations of the insertion mechanism, the insertion mechanism being situated on opposite sides of its cleavage orientation (e.g., this is true in Vincent at least since insertion mechanism components 123 123' are located on opposite sides such that there are 2 opposite insertion positions of the cradle 60), the opposite insertion orientations being for inserting fibers into a connector located respectively in the two opposite insertion positions of the cradle (e.g., figs. 9-12; col. 7 line 65 to col. 8 line 32). Thus claim 21 is met.

Regarding claim 22, Vincent et al. teaches a device according to claim 3, wherein the cleaving mechanism 30 30' is arranged to produce the non-perpendicular end face of the fiber such that the end face lies in a plane substantially perpendicular to a direction of insertion of the fiber into a connector held by the connector holding means (e.g., col. 5 lines 22-40; col. 11 lines 1-67; figs. 9-11). Thus claim 22 is met.

Regarding claim 23, Vincent et al. teaches a device according to claim 22, wherein the insertion mechanism rotates the end of the fiber between a cleavage orientation and an insertion orientation with respect to the connector holder (e.g., col. 5 lines 22-40; col. 11 lines 35-41), in order to insert the fiber into the connector, and wherein there are two opposite insertion orientations of the insertion mechanism, the insertion mechanism is situated on opposite sides of its cleavage orientation (e.g., this is true in Vincent at least since insertion mechanism components 123 123' are located on opposite sides such that there are 2 opposite insertion positions of the cradle 60), the opposite insertion orientations being for inserting fibers into a connector located respectively in the two opposite insertion positions of the cradle, and the non-perpendicular end faces of two fibers spliced in the connector are 180 degrees opposed, around a



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rotational axis comprising the longitudinal axis of the fibers (e.g., col. 5 lines 22-40; col. 7 line 65 to col. 8 line 32; col. 11 lines 1-67; figs. 9-11). Thus claim 23 is met.

Regarding claim 26, Vincent et al. teaches a device according to claim 1, further comprising at least one handle 11 which, when moved to an actuation position causes the cleaving mechanism to cleave an optical fiber (e.g., figs. 9-10). Thus claim 26 is met.

Regarding claim 27, Vincent et al. teaches a device according to claim 1, comprising a hand operated tool (e.g., figs. 9-10). Thus claim 27 is met.

Regarding claim 28, Vincent et al. teaches the use of a device according to claim 1, comprising a hand operated tool (e.g., figs. 9-10). Thus claim 28 is met.

Regarding claim 29, Vincent et al. teaches the use according to claim 28, wherein the connector 1 and/or 2 comprises at least two parts 1 and/or 2 between which the optical fiber is inserted by the insertion mechanism of the device (e.g., figs. 1-10). Thus claim 29 is met.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

**Claims 24-25, 30-31, 38-39 are rejected under 35 U.S.C. 103a as being unpatentable over Vincent et al. (5999682) in view of Tamaki et al. [herein “Tamaki”] (US 6190054).**

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Regarding claim 38, Vincent et al. teaches a device for installing an optical fiber in a connector (e.g., figs. 9-12), comprising: an optical fiber cleaving mechanism (e.g., col. 7 lines 25-61; col. 11 lines 1-20); a connector holding means 60 (e.g., fig. 9); a fiber insertion mechanism 14 14' 17 20, 20' 26 26' 123 123' (e.g., col. 11 lines 35-62) arranged such that an optical fiber F F' (e.g., fig. 11 ) may be cleaved by the cleaving mechanism 30 30' to produce an end of the fiber, and the end of the fiber may be inserted by means of the insertion mechanism into a connector 1 and/or 2 held by the connector holding means 60 (e.g., col. 11 lines 35-67).

Vincent does not expressly teach "one or more wedge members that are movable with respect to the connector holding means to open a connector held by the holding means to enable the insertion of an optical fiber therein".

Tamaki teaches one or more wedge members 21 that are movable with respect to the connector holding means 13 to open a connector 1 held by the holding means 13 to enable the insertion of an optical fiber therein (e.g., figs. 1-3, 7A-7B, 10; col. 10 lines 15-18; col. 12 lines 26-33)

Vincent and Tamaki are combined by taking the technology of Vincent which teaches an insertion mechanism for inserting a cleaved fiber or fibers into a connector to form an optical connection and applying it to the wedge(s)-to-separate/open-the-connector-for-fiber-insertion technology of Tamaki to obtain the instant invention of an insertion mechanism for inserting a cleaved fiber or fibers into a connector using wedge(s) to separate/open the connector for fiber insertion. It would have been obvious to one of ordinary skill in the art at the time the invention was made to make such a combination for the purpose of providing a device more amenable

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(e.g., eliminates the removal and reinsertion of component #2 of Vincent) to repetitive ease of insertion/extraction while still enabling an aligned state of the fibers/optical components.

Thus claim 38 is rejected.

Regarding claim 39, Vincent and Tamaki combination (herein “Vincent-Tamaki”) teaches a device according to claim 38, further comprising a main body 12 within which the cleaving mechanism 30 30’ (e.g., Vincent figs. 10-11) is located, wherein the cradle 60 is movable across the main body 12 (e.g., cradle 60 of Vincent/cradle 13 of Tamaki is moved across main body 12 of Vincent at least via pivoting component 17 of Vincent [e.g., Vincent figs. 9-11]) of the device between two opposite insertion positions (e.g., this is true in Vincent at least since insertion mechanism components 123 123’ are located on opposite sides such that there are 2 opposite insertion positions of the cradle 60), and wherein optical fibers F F’ may be inserted into respective opposite ends of a connector 1/2/4 held by the cradle 60/13 to form an optical fiber splice in the connector, and further comprising one or more wedge members 21 located adjacent to each insertion position of the cradle 60/13 (e.g., see in Tamaki fig. 8 where wedge 21 may be inserted through cradle 13 into connector 1), arranged to open respective parts only of a connector held by the cradle (e.g., see in Tamaki fig. 8), to allow the insertion of an optical fiber into respective opposite ends of the connector (e.g., Vincent figs 9-11; Tamaki figs. 1-3, 7A-7B, 8, 10). Thus claim 39 is rejected.

Regarding claim 24, Vincent-Tamaki teaches the use according to claim 1 (e.g., see also 102 rejection of claim 1 above in addition to the Vincent-Tamaki combination above), further comprising one or more wedge members that are movable with respect to the connector holding

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means to open a connector held by the holding means, to enable the insertion of an optical fiber therein (e.g., Tamaki figs. 1A-1B, 2). Thus claim 24 is rejected.

Regarding claim 25, Vincent-Tamaki teaches the use according to claim 24, further comprising a main body 12 (e.g., Vincent figs. 9-12) within which the cleaving mechanism 30 30' is located (e.g., Vincent figs. 9-12), wherein the cradle 60 is movable across the main body 12 of the device between two opposite insertion positions (e.g., this is true in Vincent at least since insertion mechanism components 123 123' are located on opposite sides such that there are 2 opposite insertion positions of the cradle 60), and wherein optical fibers F F' may be inserted into respective opposite ends of a connector held by the cradle (e.g., component # 60 in Vincent and component # 13 in Tamaki) to form an optical fiber splice in the connector, and further comprising one or more wedge 21 (Tamaki figs. 1-3, 7A-7B, 8, 10) members located adjacent to each insertion position of the cradle, arranged to open respective parts only of a connector held by the cradle 13 (e.g., Tamaki col. 10 lines 15-18; col. 12 lines 25 -52), to allow the insertion of an optical fiber into respective opposite ends of the connector (e.g., Tamaki figs. 1A-1B, 2; col. 10 lines 15-18; col. 12 lines 25 -52; Vincent figs. 9-12). Thus claim 25 is rejected.

Regarding claim 30, Vincent-Tamaki teaches the use according to claim 29 (e.g., see the 102 rejection of claim 29 given above), further comprising one or more wedge members that are movable with respect to the connector holding means (e.g., Tamaki figs. 1A-1B, 2) to open a connector held by the holding means (Tamaki figs. 1-3, 7A-7B, 8, 10), to enable the insertion-of an optical fiber therein, wherein the parts of the connector are opened by the wedge member(s),

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thereby enabling the insertion of the optical fiber into the connector (Tamaki figs. 1-3, 7A-7B, 8, 10; Vincent figs. 9-12). Thus claim 30 is rejected.

Regarding claim 31, Vincent-Tamaki teaches the use according to claim 30, wherein the connector, and the wedge members 21 and the connector holding means 13 of the device, are arranged such that the wedge members 21 open only a portion of the connector at a time, to install an optical fiber in that portion of the connector while leaving another portion of the connector unopened (Tamaki figs. 1-3, 7A-7B, 8, 10; Vincent figs. 9-12). Thus claim 31 is rejected.

#### ***Allowable Subject Matter***

Claims 15-16, 36-37 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The prior art, either alone or in combination, does not disclose or render obvious wherein the curved support comprises an at least partial disc, on the circumference of which the fiber is retained, and wherein the clamping and retention of the fiber on the support is achieved by rotating a pivoted fiber lock member of the at least partial disc of the support around at least part of the circumference thereof in combination with the rest of claim 15 or 36.

It is noted that each of claims 15, 36 is allowable because the unique combination of each and every specific element stated each respective claim.

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***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to MICHAEL P. MOONEY whose telephone number is 571-272-2422. The examiner can normally be reached during weekdays, M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mark Robinson can be reached on 571-272-2319. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/Michael P. Mooney/  
Examiner  
Art Unit 2883

/Mark A. Robinson/  
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